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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,313	04/01/2004	Baruch Pletner	2002-0024-05	1865
21773	7590	10/25/2004	EXAMINER	
CYMER INC LEGAL DEPARTMENT 17075 Thormint Court SAN DIEGO, CA 92127-2413			SHECHTMAN, SEAN P	
		ART UNIT	PAPER NUMBER	2125

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/817,313	PLETNER ET AL.
	Examiner	Art Unit
	Sean P. Shechtman	2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 April 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 16-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 16-33 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 April 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 16-33 are presented for examination. Claims 1-15 have been cancelled.

Priority

Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) or 120 as follows:

2. Examiner invites the applicant's attention to 37 CFR 1.78(a)(4), which clearly states, in part:

“A nonprovisional application, other than for a design patent, or an international application designating the United States of America may claim an invention disclosed in one or more prior-filed provisional applications. In order for an application to claim the benefit of one or more prior filed provisional applications, ***each prior-filed provisional application must name as an inventor at least one inventor named in the later-filed application*** and disclose the named inventor's invention claimed in at least one claim of the later-filed application in the manner provided by the first paragraph of 35 U.S.C. 112.”

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

However, the provisional application 60/117,671 upon which priority is claimed fails to name as an inventor at least one inventor named in the later-filed application.

3. An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)). The specific reference to any prior nonprovisional application must include the ***relationship (i.e., continuation, divisional, or continuation-in-part) between the applications*** except when the reference is to a prior application of a CPA assigned the same application number. ***U.S. Application No. 09/803,320 is***

a continuation-in-part of U.S. Application No. 09/491,969. Also, the current status of all the parent nonprovisional application(s) should be included.

Oath/Declaration

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Information Disclosure Statement

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered (See page 5, lines 10-13; Page 32, last paragraph; Page 46, 2nd paragraph).

Specification

6. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

8. The disclosure is objected to because of the following informalities:

Referring to page 1, examiner respectfully submits that Application No. 09/803,320 was filed March 9th 2001, not March 3rd 2001. Furthermore, Application No. 60/278,810 was filed March 26th 2001.

Claim Objections

9. Claims 21 and 23 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 21 and 23 recite the same limitation as claim 17.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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10. Claims 16-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Referring to claim 16, it is not clear what is required to be controlled by a computer processor programmed based upon a state space model, - the applied strain, the elastic portion of an operating machine, the operating machine, the induced strain actuator?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 16, 17, 20, 21, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,011,345 to Murray.

Referring to claim 16, Murray teaches a method of motion control comprising: applying induced strain to an elastic portion of an operating machine utilizing at least one induced strain actuator (Col. 6, lines 27-45; Col. 9, lines 9-23; Col. 15, lines 26-61; Col. 16, lines 30-52; Col. 16, lines 58-61), controlled by a computer processor programmed based upon a state space model (Col. 9, lines 24-31); wherein the state-space model is generated from a dynamic analysis of a simulation of the motion of the elastic portion of the operating machine occurring during the operation of the operating machine (Col. 9, lines 24-40; Col. 10, lines 47-48; Col. 14, line 52 – Col. 15, line 25).

Referring to claims 17, 20, 21, Murray teaches the method of claim 16 further comprising: the dynamic analysis includes utilization of state-space equations of motion to facilitate the integration of control systems and response simulation employing a synthesis tool (Col. 4, lines 59-67).

Referring to claim 33, Murray teaches the method of claim 16, further comprising: utilizing electroactive elastic strain actuators to provide elastic vibration damping (Col. 9, lines 10-23).

12. Claims 16-29, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,549,858 to Shelly.

Referring to claim 16, Shelly teaches a method of motion control comprising: applying induced strain to an elastic portion of an operating machine utilizing at least one induced strain actuator (Fig. 10; Col. 24, lines 9-35; Col. 7, lines 39-55; Col. 8, lines 47-61), controlled by a computer processor programmed based upon a state space model (Col. 3, line 26 – Col. 4, lines 61); wherein the state-space model is generated from a dynamic analysis of a simulation of the motion of the elastic portion of the operating machine occurring during the operation of the operating machine (Col. 16, lines 18-64).

Referring to claims 17, 20, 21, 22, 23, Shelly teaches the method of claim 16 further comprising: the dynamic analysis includes utilization of state-space equations of motion to facilitate the integration of control systems and response simulation employing a synthesis tool (Col. 2, line 66 – Col. 3, line 4).

Referring to claims 18 and 19, Shelly teaches the method of claim 16 further comprising: wherein the state-space model is a reduced-order state-space model based upon a selected subset of elements from a Finite Element Model ("FEM") including natural vibration modes within a selected excitation frequency range and selected modes for modal analysis (Col. 12, lines 12-50).

Referring to claims 24 and 25, Shelly teaches the method of claim 20, further comprising: employing fictitious masses and complementary static load analysis to improve the model's accuracy and/or efficiency (Col. 24, lines 9-35).

Referring to claims 26-27, Shelly teaches the method of claim 22, further comprising: employing fictitious masses and complementary static load analysis to improve the model's accuracy and/or efficiency (Col. 24, lines 9-35).

Referring to claim 28, Shelly teaches the method of claim 16, further comprising: utilizing at least one electroactive actuator and high accuracy representation of the structure surrounding the actuator derived utilizing fictitious masses (Col. 24, lines 9-35).

Referring to claim 29, Shelly teaches the method of claim 28 further comprising: utilizing fictitious mass modal coupling to include the effects of local deformation around selected grid points on the elastic portion (Col. 24, lines 9-35).

Referring to claim 33, Shelly teaches the method of claim 16, further comprising: utilizing electroactive elastic strain actuators to provide elastic vibration damping (Col. 12, lines 1-11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,549,858 to Shelly as applied to claims 16-29, and 33 above, and further in view of U.S. Pat. No. 5,374,011 to Lazarus.

Referring to claims 30-32, Shelly teaches all the limitations above, however, Shelly fails to teach utilizing sets of low-frequency modes generated by a standard mode analysis procedure; utilizing a fictitious mass matrix in a finite element model; and generating cleaned eigenvalues from FEM modes by removing the effects of the fictitious masses, and utilizing the eigenvalues when local response near the fictitious mass point if of interest.

However, Lazarus teaches analogous art (Abstract), comprising: utilizing sets of low-frequency modes generated by a standard mode analysis procedure; utilizing a fictitious mass matrix in a finite element model; and generating cleaned eigenvalues from FEM modes by removing the effects of the fictitious masses, and utilizing the eigenvalues when local response near the fictitious mass point if of interest (Col. 12, lines 47-56; Col. 18, line 65 – Col. 19, line 17; Col. 21, lines 46-63; Col. 31, lines 37-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the teachings of Lazarus with the teachings of Shelly. One of ordinary skill in the art would have been motivated to combine these references because Lazarus teaches an adaptive composite structure is with strain actuators controlled with high authority and high bandwidth by a dynamic compensator that implements MIMO control laws (Col. 1, line 52 – Col. 2, line 19).

Double Patenting

14. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

15. Applicant is advised that should claim 20 be found allowable, claim 17 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

October 17, 2004



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